

Work Order ID 66761

Page 1

Friday, February 25, 2011 1:36:38 PM

Item ID: D350-636-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube LH

Start Date: 2/25/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/11/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 11-02-25 Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

IIN-D350-636

H

0.00

Sulokas

HJ for BG 11-3-28

0.00

100



DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy blue file and type labels per PPP D350-636-011 CHG 006

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside
AFT end per dwg D27503- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500",
deburr.4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade
fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details). Drill using drill
Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.
SECOND SIDE8-Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting
location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up
holes for ground handling and detail C to 0.500" (8 holes per side)9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to
0.297".

10-Open up holes of Detail A to 0.297" (total of 2 holes per side)

BE 11/03/03

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Stop

Sequence ID/
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DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004
A/R Aluminum Rod batch: M116577

BE 11/03/08

12-Grind welds flush as per Dwg D2750

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8/103/08

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8/103/08



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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 0 BE 11/03/10

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 BE 11/03/10

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side)
as per dwg D2750.

2-Open up holes of Detail B to 0.750" (total of 4 holes per side)
as per dwg D2750.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐☐☐ Sikaflex-291 batch: 116040 ☐☐☐
exp. date: 11/03/10

BB

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 8)

A/R ☐☐☐ Aluminum Rod batch: M116577

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

BE 11/03/10

11/03/10

11/03/10

11/03/10

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Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 BL 11-3-22

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

M115951

Memo

0.00

Powder Coating

START TIME: 7:40 32
OVEN TEMPERATURE:
FINISH TIME: 8:10

1 BL 11-3-22

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

⇒ m-l 11/03/26 (IX)

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

1- Install inserts as per Dwg D2750

= 7 m.k 11/03/26

(1X)

230

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: N/A

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH:

EXP DATE:

M116040

11/09

4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube

A/R 55-o-ring lube batch: N1114189

5-Coat all exposed fasteners with "LPS Procyon" batch: 114596

(1X)

m.k 11/03/28

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8 w/03/26

(N)

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

11/3/28 SP

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8 w/03/29

(H)

*****ensure antiseize is on AN8C21A bolts*****

W/O:		WORK ORDER CHANGES					
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

0.00



Packaging

Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-011

hqc 72 REUI

11/3/30

SP

2

280

0.00



QC21- Final Inspection - Work Order Release

QC

Memo

0.00

Quality Control

11/3/30

ME

11-03-29

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Picklist Print

Friday, February 25, 2011 1:36:45 PM

Page 1

Work Order ID: 66761

Parent Item: D350-636-011

Parent Item Name: Skidtube LH



Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:I 02.09.25 Rearranged procedure steps KJ
 IPP Rev:J 06-03-23 As per Rev D JLM
 IPP Rev:K 06-07-13 As per dsi9343 EC
 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:M 08-04-22 update steps 4, 13 DD verified by:EC
 IPP Rev:N 08-09-23 revF as per dwg DD verified by:ec
 IPP Rev:O 09-02-06 apply antiseize on AN8C21A bolts as per PAR09-010
 DD verified by:EC IPP Rev:P 10.06.22
 revise seq110 DD verf:EC IPP Rev:Q 10.10.01 as per IIN
 revH DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location,	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	-------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2594-3		Manufactured	No			230	Each	1,031.000	8	8			
O-Ring, 205 Skidtube													

Location Loc Qty Loc Code

FP 543
 55546 19
 58191 12
 59358 12
 65518 500
 fpa 488
 61762 488

m-l 11/03/26

8x

AN960JD816

Purchased

No

250

Each

89.0000

2

2



1/2" washer, Alum

11/3/28 SD

Location Loc Qty Loc Code

ST348 89
 106043 89

2

W/O:		WORK ORDER CHANGES					
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Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2744

Manufactured No

110

Each

55.0000

1

1



Cap



BE 11/03/08

Location

Loc Qty

Loc Code

LG

29

65086

29

ST

26

62715

26

D2600-3-BENT

Manufactured No

110

Each

6.0000

1

1



Extrusion Bent



BE 11/03/03

Location

Loc Qty

Loc Code

LG

6

61634

2

62764

1

64434

3

D2743

Manufactured No

160

Each

122.0000

8

8



Crossbolt Spacer



BE 11/03/08

Location

Loc Qty

Loc Code

LG

122

50281

10

57953

2

59111

10

61844

16

64003

84

Br

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Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2739

Manufactured No

160

Each

4.0000

1

1



350 I Beam

Location

Loc Qty

Loc Code

LG

4

64448

4

Manufactured No

160

Each

35.0000

4

4

D3490-3



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

35

60294

1

63556

24

64006

10

Manufactured No

160

Each

61.0000

4

4

D3490-3



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

61

59424

3

62450

48

64005

10

Purchased No

220

Each

3,945.000

38

38

ALS4-1032-225



Insert

Location

Loc Qty

Loc Code

PK011

3945

110768

3945

BE 11/03/10
BE 11/03/12
B 66968 2
BE 11/03/18
M 11/03/26
38

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Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3492-041

Manufactured No

230 Each

93.0000

8

8



Plug Assembly



m-l 11/03/26

Location

Loc Qty

Loc Code

FP013

93

59114

1

62210

3

63994

29

65068

60

D3793-3

Manufactured No

230 Each

20.0000

1

1



Wearshoe



m-l 11/03/26

Location

Loc Qty

Loc Code

FP018

15

39479

1

39812

2

64447

12

FP18

4

61711

4

FP19

1

57947

1

AN8C35A

Purchased No

230 Each

61.0000

1

1



BOLT



m-l 11/03/28

Location

Loc Qty

Loc Code

ST345

25

116874

25

ST346

36

114442

5

115188

5

115960

26

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Shop Packet Print

Page 4

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Start Qty: 1.00

Required Qty: 1.00

D3793-1

Manufactured No

230

Each

25.0000

1

1



Wearshoe



m-l 11/03/26

Location

Loc Qty

Loc Code

FP018

17

39277 ✓

1

39715

2

64445

14

FP18

8

59151

1

59630

1

61710

6

IX

D3488-041

Manufactured No

230

Each

17.0000

1

1



Blade Fitting Assembly, LH



m-l 11/03/28

Location

Loc Qty

Loc Code

FG008

10

62002

10

FP18

7

61689 ✓

7

IX

D3794-3

Manufactured No

230

Each

19.0000

1

1



Gasket



m-l 11/03/26

Location

Loc Qty

Loc Code

FP010

3

39422

3

FP10

15

60826 ✓

1

61712

14

FP18

1

59153

1

IX

Friday, February 25, 2011 1:36:46 PM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, February 25, 2011 1:36:46 PM

Work Order ID: 66761

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased

No

230

Each

97.0000

4

4



BOLT



m-k 11/03/28

Location

Loc Qty

Loc Code

FG

2

103964

2

ST344

95

111649

2

114653

1

115936 ✓

42

116874

50

4X

MS21083C8

Purchased

No

230

Each

43.0000

1

1



NUT



m-k 11/03/28

Location

Loc Qty

Loc Code

ST303

43

113845

5

114934

3

115594 ✓

4

115884 ✓

31

1X

D3536-25

Manufactured

No

230

Each

24.0000

1

1



Gasket



m-k 11/03/26

Location

Loc Qty

Loc Code

FP

12

65903

12

FP12

9

64446 ✓

9

FP-12

3

39234

3

1X

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, February 25, 2011 1:36:47 PM

Work Order ID: 66761

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3631-1
Washer

Manufactured No

230 Each

144.0000 8 8

Location

Loc Qty

Loc Code

ST072

144

63647 ✓

144

D3791-1
Wearplate

Manufactured No

230 Each

14.0000 1 1

Location

Loc Qty

Loc Code

FP017

3

39276 ✓

1

39418 ✓

2

FP17

11

62239

11

AN960C10L
washer

NAS1149C0332
R

Purchased No

230 Each

127.0000 38 38

Location

Loc Qty

Loc Code

ST245

127

107534

59

108246

68

D2745
Bushing

Manufactured No

230 Each

121.0000 8 8

Location

Loc Qty

Loc Code

ST023

121

52311

5

59112

4

61988

4

63315 ✓

108

m-l 11/03/28

8X

m-l 11/03/26

1X

M116304

m-l 11/03/28

38X

m-l 11/03/28

8X

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, February 25, 2011 1:36:47 PM

Work Order ID: 66761

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

230

Each

1,024.000

34

34



Bolt



m-l 11/03/28

Location

Loc Qty

Loc Code

ST350

1024

107862

68

108302

34

114330

11

115015

13

115371

4

115422

100

115835

194

116419

500

116549

100

34X

D3537-1

Manufactured

No

230

Each

33.0000

3

3



Wearpad



m-l 11/03/26

Location

Loc Qty

Loc Code

FP017

33

37749

6

65057

27

65927 3X

AN960C816L

Purchased

No

230

Each

0.0000

1

1



WASHER



m-l 11/03/28

NAS 1149C08332R

1X

114915

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 9

Friday, February 25, 2011 1:36:47 PM

Work Order ID: 66761

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3492-043

Manufactured No

230

Each

41.0000

8

8



Plug Assembly



m-l 11/03/26

Location

Loc Qty

Loc Code

FP		2
54682		2
FP013		39
59117		1
59190		4
63996	✓	2
65070		32

8x

~~✗~~

AN3C6A

Purchased

No

230

Each

359.0000

4

4



BOLT



m-l 11/03/28

Location

Loc Qty

Loc Code

ST351		359
111982	✓	134
116419		75
116549		50
116704		100

4x

NAS1611-013

Purchased

No

230

Each

248.0000

8

8



O-RING



m-l 11/03/26

Location

Loc Qty

Loc Code

FP		248
115460		100
115589		28
115812		20
116582	✓	100

8x

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Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, February 25, 2011 1:36:48 PM

Work Order ID: 66761

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3535-25

Manufactured No

230 Each

21.0000

1

1



Wearshoe



m-l 11/03/26

Location

Loc Qty

Loc Code

FP18

21

38867

1

39716

2

62233

6

65167

12

IX

D3794-1

Manufactured No

230 Each

15.0000

1

1



Gasket



m-l 11/03/26

Location

Loc Qty

Loc Code

FP010

15

39279

1

39421

2

61704

12

IX

MS21043-6

Purchased No

230 Each

546.0000

4

4



NUT



m-l 11/03/28

Location

Loc Qty

Loc Code

ST301

546

112314

546

4X

D3493-1

Manufactured No

250 Each

32.0000

2

2



Washer



11/3/28

Location

Loc Qty

Loc Code

ST062

32

62677

32

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, February 25, 2011 1:36:48 PM

Page 11

Work Order ID: 66761

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

250

Each

43.0000

2



NUT



11/3/28 SF

Location

Loc Qty

Loc Code

ST303

43

113845

5

114934

3

115594

4

115884

31

AN8C21A

Purchased

No

250

Each

71.0000

2



BOLT



11/3/28

Location

Loc Qty

Loc Code

ST345

71

113558

1

114653

2

115723

8

116381

60

D3672-1

Manufactured

No

230

Each

1,077.000

8



Phenolic Washer



11/03/28

Location

Loc Qty

Loc Code

ST077

1077

42329

10

52505

67

64177

1000

Friday, February 25, 2011 1:36:48 PM

Shop Packet Print

Page 11

W/O: 66761		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/03/28	230	Assemble with NAS15151+3L / M113362	mp	11/03/28	4		

Part No: D350-636-011 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, February 25, 2011 1:36:48 PM

Page 12

Work Order ID: 66761

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250

Each

79.0000

1

1



Blade, 350 Skidtube



11/3/2011

Location

Loc Qty

Loc Code

ST466

79

60210

6

61341

33

63589

40

1

D3532-1

Manufactured No

250

Each

31.0000

2

2



Spacer



11/3/2011

Location

Loc Qty

Loc Code

ST065

31

62218

31

2

Friday, February 25, 2011 1:36:49 PM

Shop Packet Print

Page 12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-5	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *64764*
BS10-P2-25

RELEASED
64764

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-15A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	PH		
CHECKED	PH		
MFG. APPR.	PH		
APPROVED	PH		
DE APPR.	PH		
DATE	08.07.16		
DART AEROSPACE USA, INC. PORT HADLOCK, WA			
DRAWING NO. D2750		REV. F SHEET 1 OF 11	
TITLE 350 SKIDTUBE ASSEMBLY		SCALE NTS	
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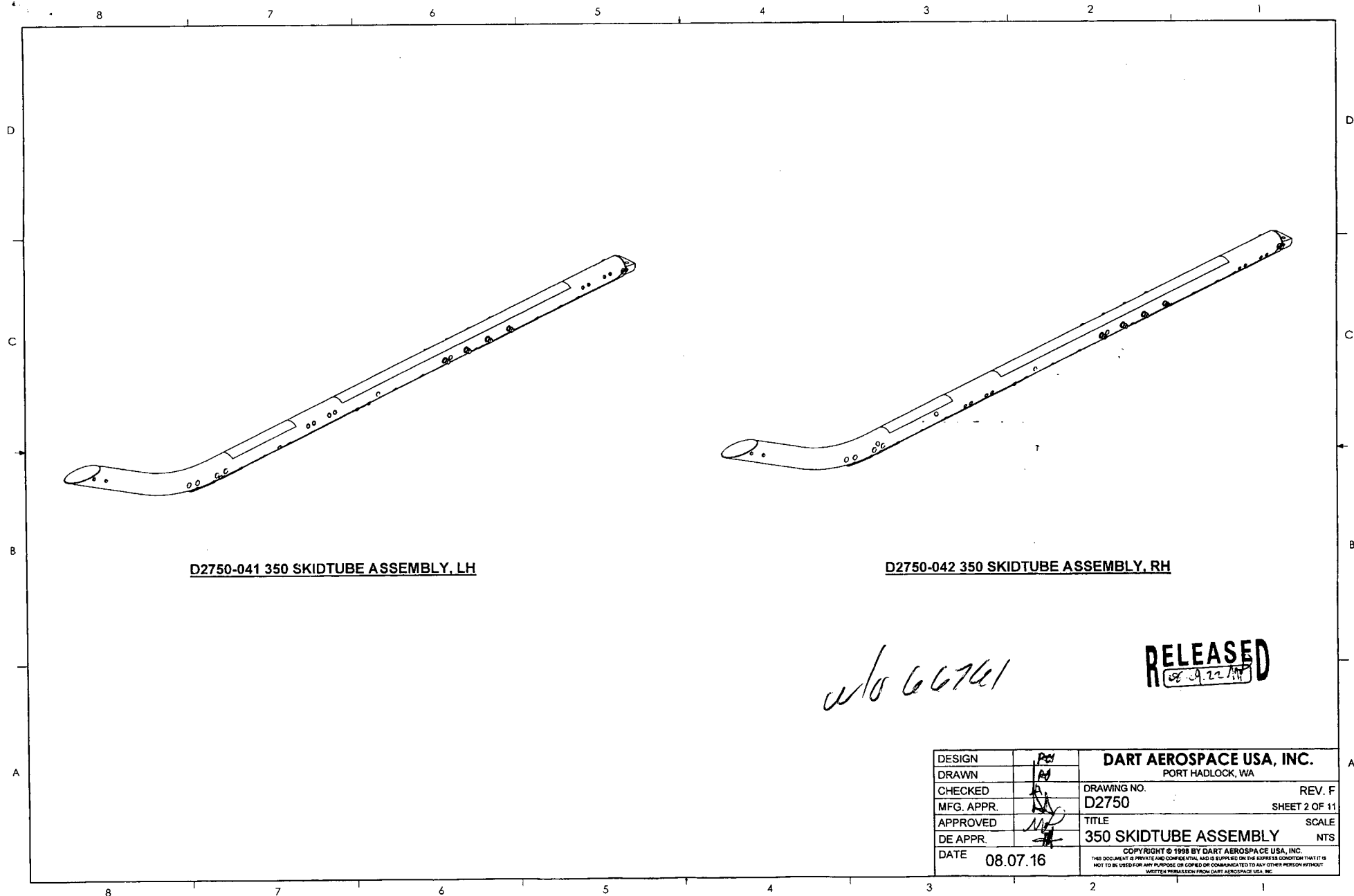
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

w/o 66741

RELEASED
08-09-22

DESIGN	<i>PC</i>	DART AEROSPACE USA, INC.	
DRAWN	<i>LM</i>	PORT HADLOCK, WA	
CHECKED	<i>A</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>SA</i>	D2750	SHEET 2 OF 11
APPROVED	<i>ME</i>	TITLE	SCALE
DE APPR.	<i>SA</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

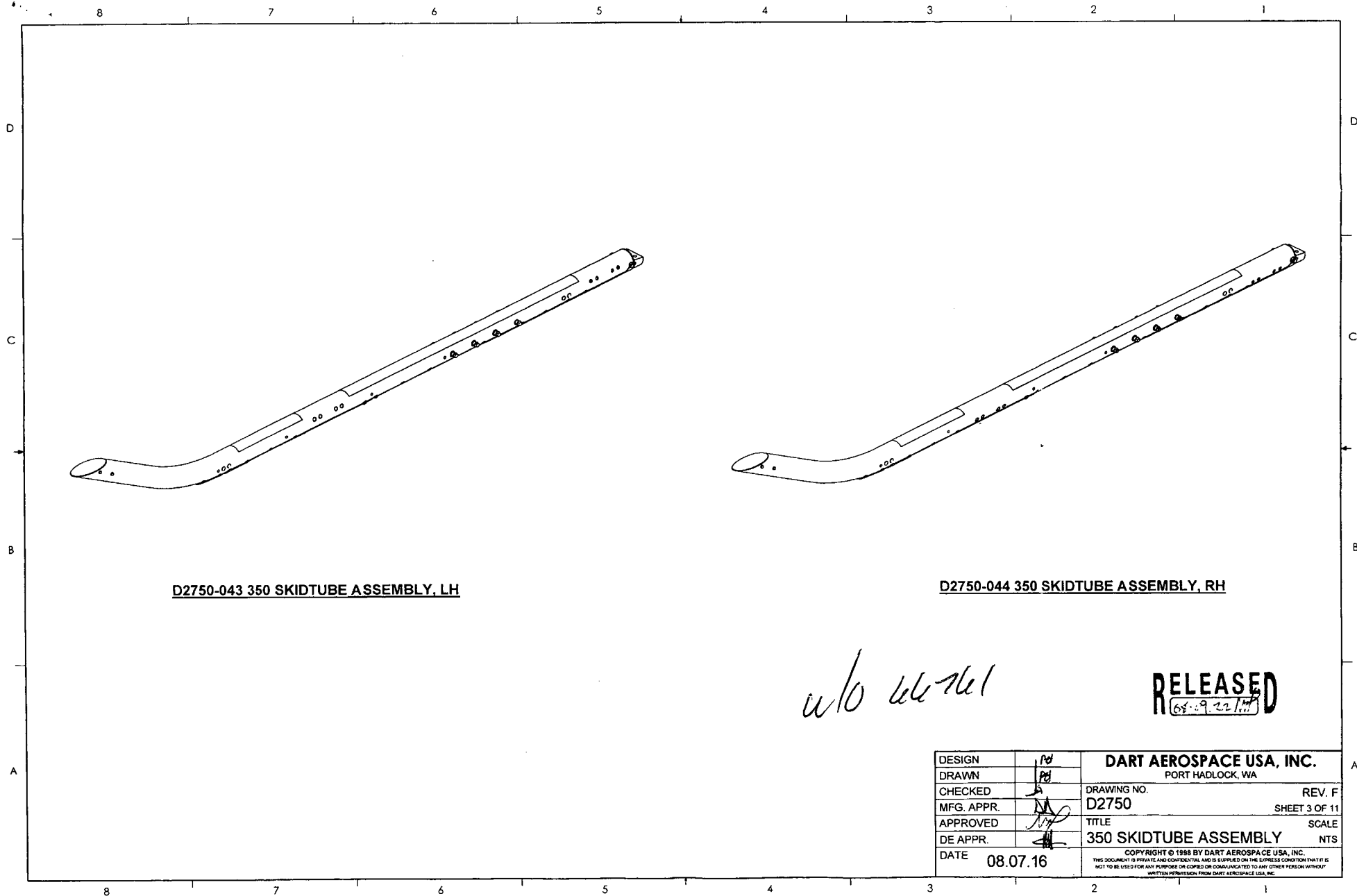
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



who who

RELEASED
68-9-22/100

DESIGN	Per	DART AEROSPACE USA, INC.	
DRAWN	Per	PORT HADLOCK, WA	
CHECKED	Per	DRAWING NO.	REV. F
MFG. APPR.	Per	D2750	SHEET 3 OF 11
APPROVED	Per	TITLE	SCALE
DE APPR.	Per	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1988 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

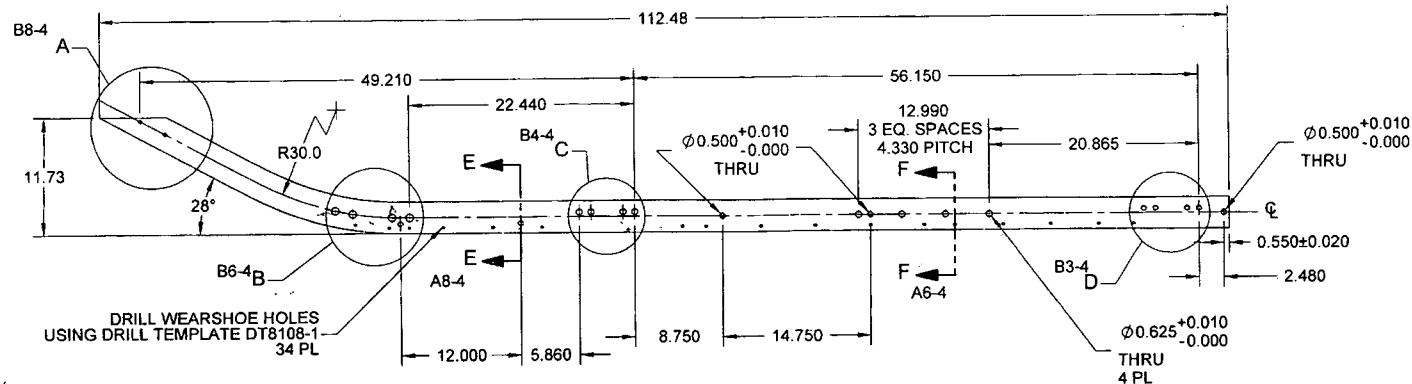
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

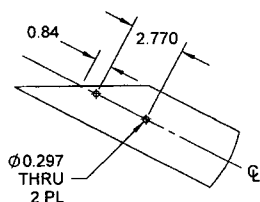
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

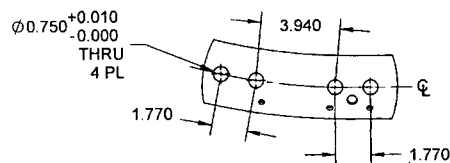
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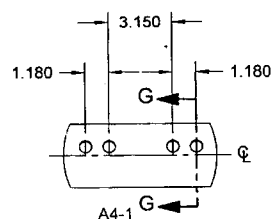
D2750-1 LH SKIDTUBE



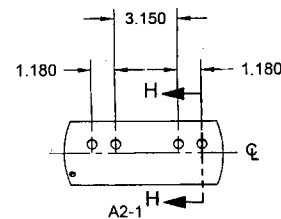
DETAIL A
SCALE 2X



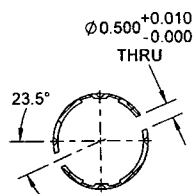
DETAIL B
SCALE 2X



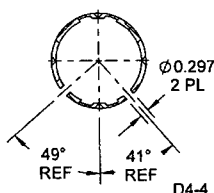
DETAIL C
SCALE 2X



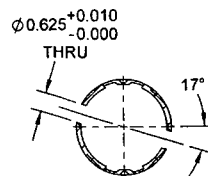
DETAIL D
SCALE 2X



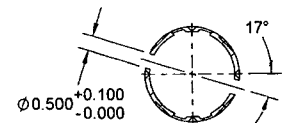
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

DESIGN	IPB
DRAWN	IPB
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	08.07.16

DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWING NO. D2750	REV. F SHEET 4 OF 11
TITLE 350 SKIDTUBE ASSEMBLY	SCALE NTS
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who looks like!

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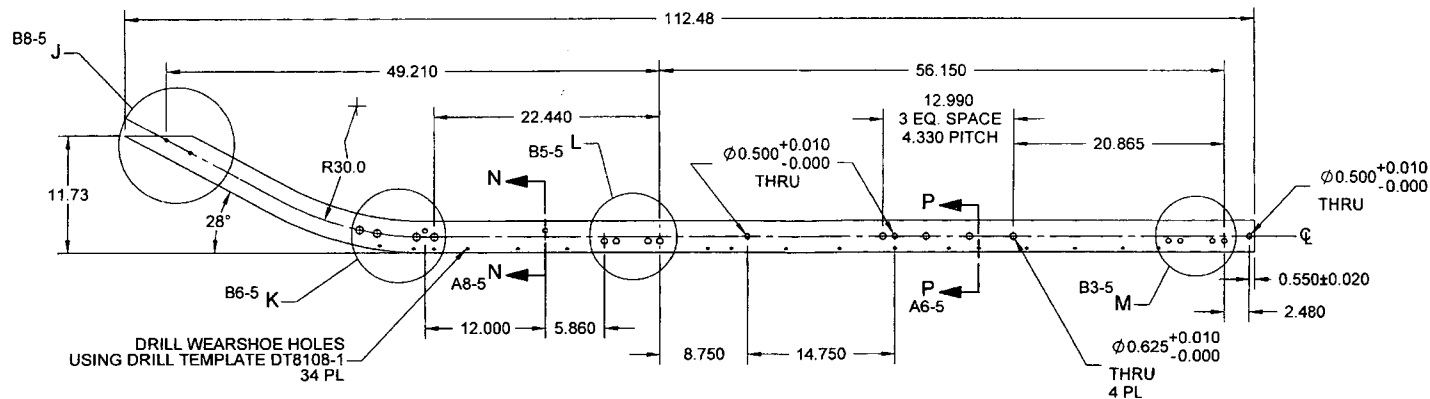
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

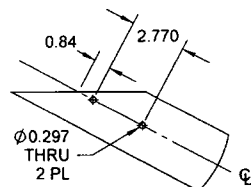
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

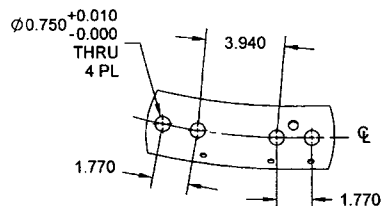
NOTE: Date & initial all entries



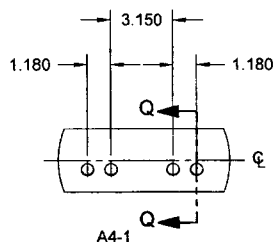
D2750-2 RH SKIDTUBE



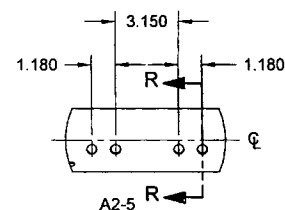
DETAIL J
SCALE 2X



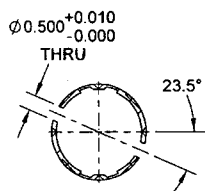
DETAIL K
SCALE 2X



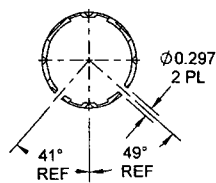
DETAIL L
SCALE 2X



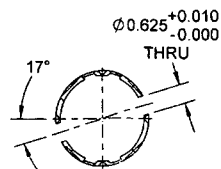
DETAIL M
SCALE 2X



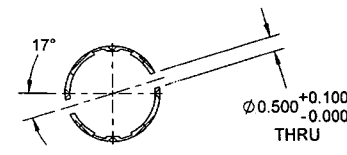
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

DESIGN	REV	DART AEROSPACE USA, INC.	
DRAWN	REV	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV.
MFG. APPR.		D2750	SHEET 5 OF 11
APPROVED		TITLE	SCALE
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

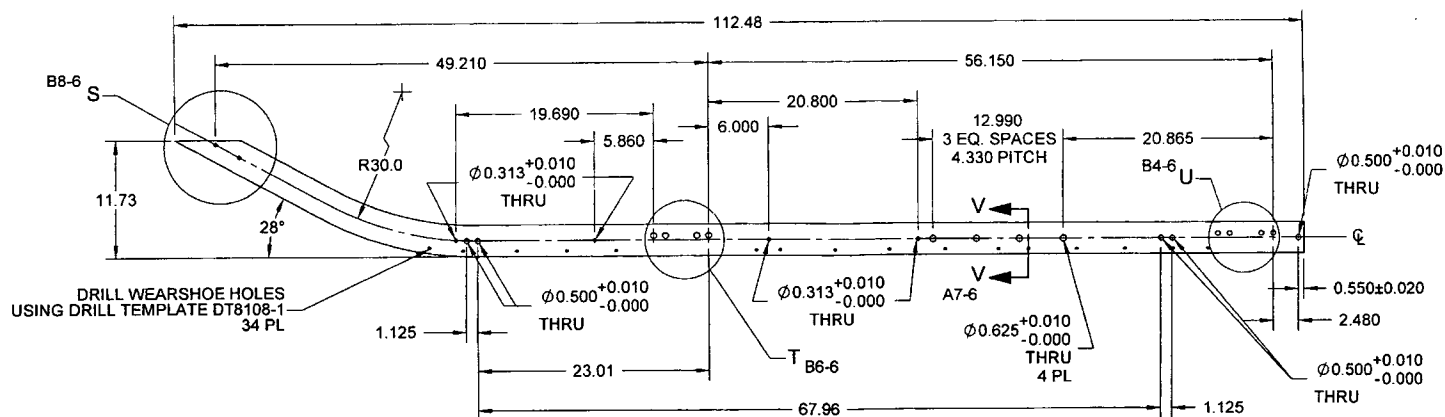
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4

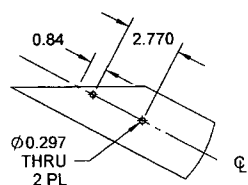
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2

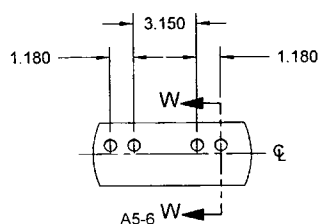
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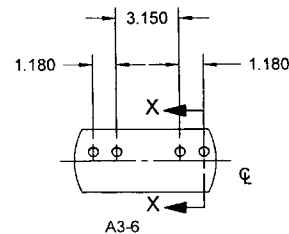
D2750-3 LH SKIDTUBE



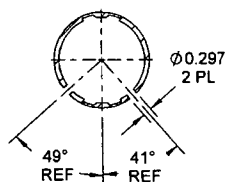
DETAIL S
SCALE 2X



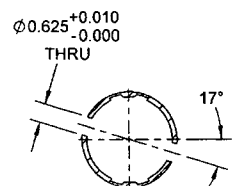
DETAIL T
SCALE 2X



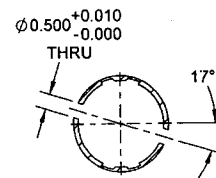
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

who who who

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08-07-16

DESIGN		DART AEROSPACE USA, INC.	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 6 OF 11
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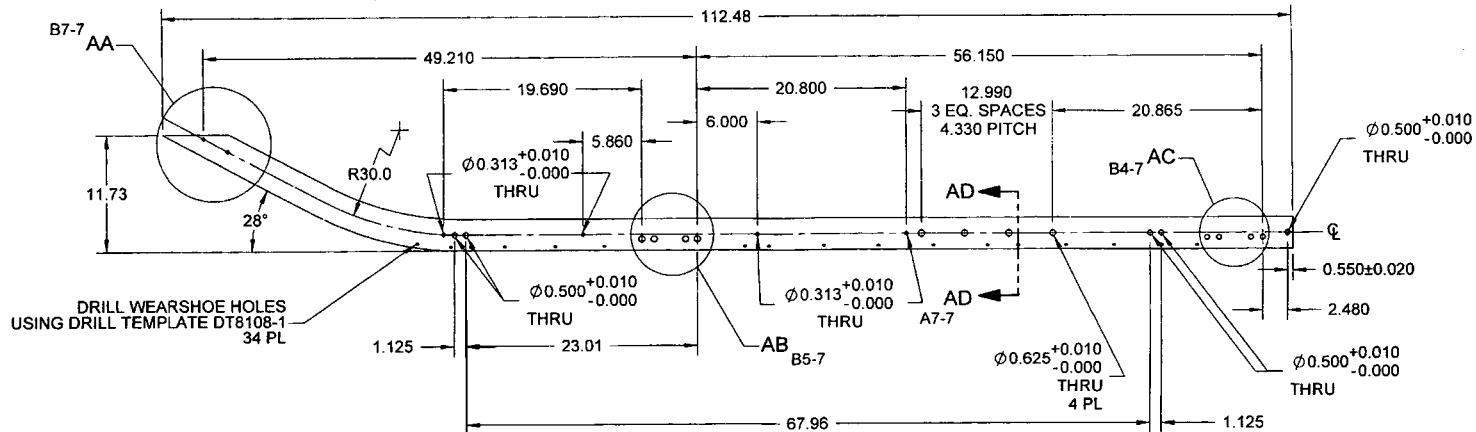
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

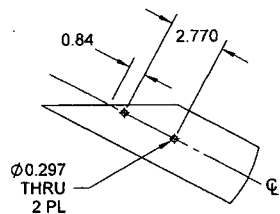
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

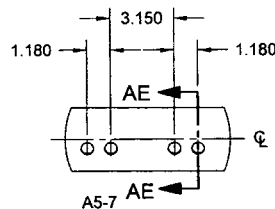
NOTE: Date & initial all entries



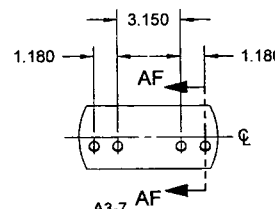
D2750-4 RH SKIDTUBE



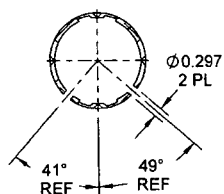
DETAIL AA
SCALE 2X



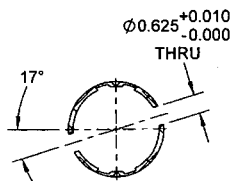
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SCALE 2X



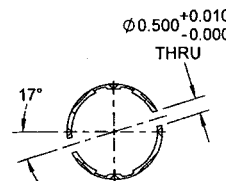
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.	<i>DA</i>	D2750	SHEET 7 OF 11
APPROVED	<i>DA</i>	TITLE	SCALE
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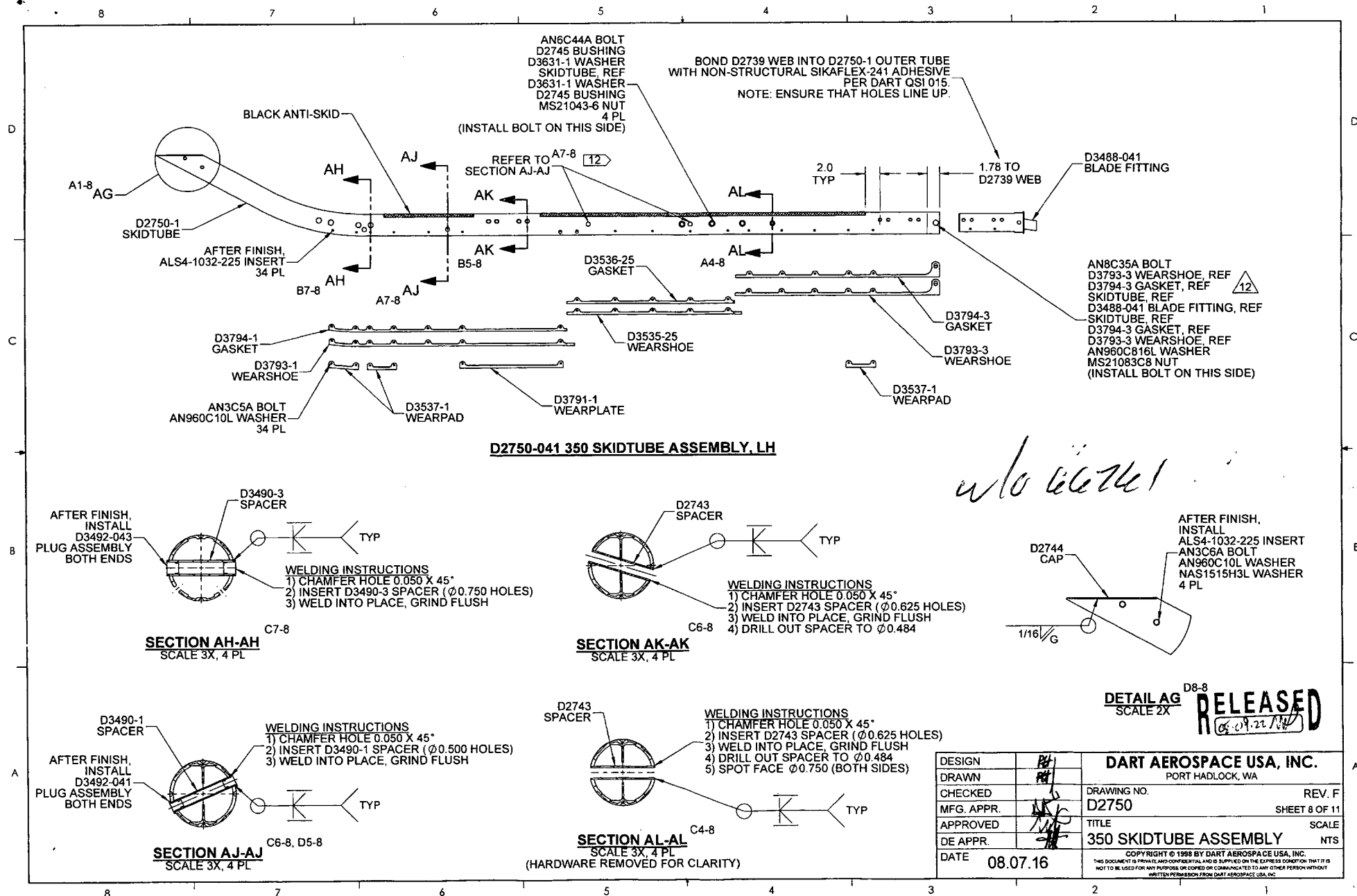
W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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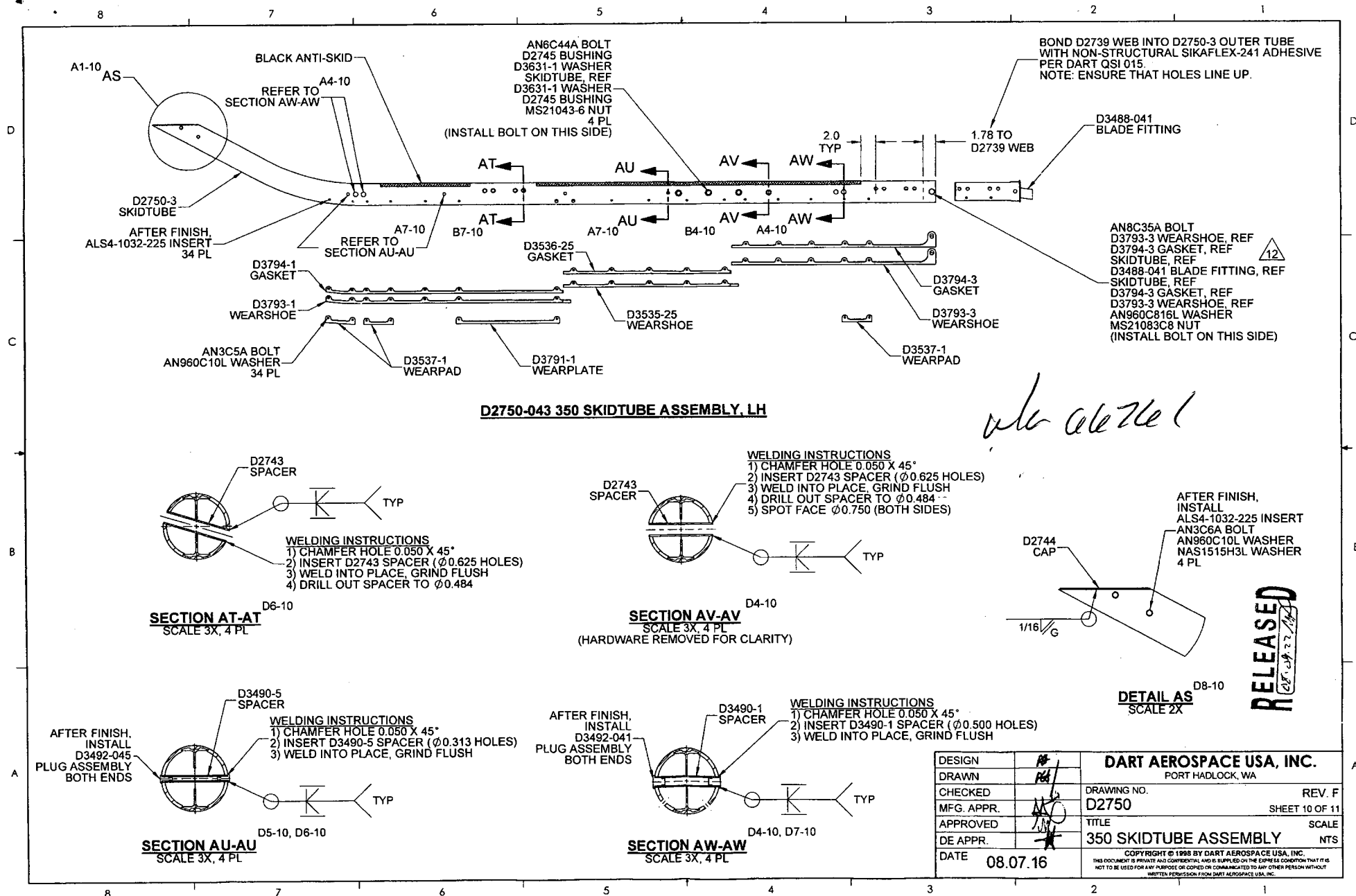
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

A1-11

BA

BLACK ANTI-SKID

REFER TO
SECTION BE-BE

A4-11

(INSTALL NUT ON THIS SIDE)

D2750-4
SKIDTUBEAFTER FINISH,
ALS4-1032-225 INSERT
34 PLD3794-1
GASKETD3793-1
WEARSHOEAN3C5A BOLT
AN960C10L WASHER
34 PLD3537-1
WEARPADD3791-1
WEARPLATED3536-25
GASKET

A7-11

D3535-25
WEARSHOE2.0
TYP1.78 TO
D2739 WEBD3488-042
BLADE FITTING

AN8C35A BOLT
D3793-3 WEARSHOE, REF
D3794-3 GASKET, REF
SKIDTUBE, REF
D3488-042 BLADE FITTING, REF
SKIDTUBE, REF
D3794-3 GASKET, REF
D3793-3 WEARSHOE, REF
AN960C816L WASHER
MS21083C8 NUT
(INSTALL NUT ON THIS SIDE)

D2750-044 350 SKIDTUBE ASSEMBLY, RHD2743
SPACER

TYP

WELDING INSTRUCTIONS

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D2743 SPACER (Ø0.625 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH
- 4) DRILL OUT SPACER TO Ø0.484

SECTION BB-BB
SCALE 3X, 4 PL

D6-11

D2743
SPACER

TYP

WELDING INSTRUCTIONS

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D2743 SPACER (Ø0.625 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH
- 4) DRILL OUT SPACER TO Ø0.484
- 5) SPOT FACE Ø0.750 (BOTH SIDES)

SECTION BD-BD
SCALE 3X, 4 PL

(HARDWARE REMOVED FOR CLARITY)

D4-11

*W/666241*D2744
CAP

1/16" G

AFTER FINISH,
INSTALL
ALS4-1032-225 INSERT
AN3C6A BOLT
AN960C10L WASHER
NAS1515H3L WASHER
4 PL

DETAIL BA
SCALE 2X

D8-11

AFTER FINISH,
INSTALL
D3492-045
PLUG ASSEMBLY
BOTH ENDS

D3490-5
SPACER**WELDING INSTRUCTIONS**

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D3490-5 SPACER (Ø0.313 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH

SECTION BC-BC
SCALE 3X, 4 PL

D5-11, C6-11

AFTER FINISH,
INSTALL
D3492-041
PLUG ASSEMBLY
BOTH ENDS

D3490-1
SPACER**WELDING INSTRUCTIONS**

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D3490-1 SPACER (Ø0.500 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH

SECTION BE-BE
SCALE 3X, 4 PL

D4-11, D7-11

DESIGN	
DRAWN	
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	08.07.16

DART AEROSPACE USA, INC.
PORT HADLOCK, WA

DRAWING NO.
D2750

REV. F
SHEET 11 OF 11

TITLE
350 SKIDTUBE ASSEMBLY

SCALE
NTS

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 243

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barkley Elliott
Job number: ~~64950~~ 64953
Part number: 350-636-016
Description: 350 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Sal Lewis Date of Test Coupon 11-01-18

Welder Barkley Elliott Date of Test Coupon 11-01-18

The above named individual is qualified in accordance with AWS D17.1.2001 to weld